THE INVENTION CLAIMED IS

1. A microfabricated biopsy/genetic analysis instrument, comprising:

a cutter section,

a specimen chamber located adjacent said cutter section,

a specimen treatment section located adjacent said specimen chamber, and

a PCR reaction chamber section located adjacent said specimen treatment section.

2. The instrument of Claim 1, wherein said cutter section includes a member having an opening therein having a smooth cutting edge with atomic sharpness.

3. The instrument of Claim 2, wherein said member is constructed of material selected from the group consisting of silicon, metal, ceramic, and other hard material.

4. The instrument of Claim 2, wherein said opening has a tapered configuration located adjacent said specimen chamber.

5. The instrument of Claim 1, wherein said specimen treatment section includes another member bonded to said first mentioned member and having a plurality of microchannels therein, at least one of said microchannels interconnecting said specimen chamber with said PCR reaction chamber section.

6. The instrument of Claim 5, wherein said another member is constructed of material selected from the group consisting of glass, quartz, plastic, and other transparent material.

7. The instrument of Claim 5, additionally including at least one fluid inlet and at least one microchannel connected thereto for supplying a fluid to at least said specimen chamber and said at least one of said plurality of microchannels in said specimen treatment section.

8. The instrument of Claim 5, additionally including an optical viewing and/or optical excitation arrangement adjacent said specimen treatment section.

9. The instrument of Claim 5, wherein said PCR reaction chamber is located in said another member, and includes at least one heater located in said another member.

10. The instrument of Claim 9, additionally including at least one outlet and at least one microchannel connected to said PCR reaction chamber.

11. The instrument of Claim 1, wherein said PCR reaction chamber section has a cross section greater than a cross section of said specimen treatment section.

12. The instrument of Claim 1, wherein said cutter section and said specimen treatment section has a width less than a width of said PCR reaction chamber section.

13. The instrument of Claim 12, wherein said PCR reaction chamber section is formed on a separate member than said specimen treatment section and is constructed to abut and align with said specimen treatment section such that fluid/sample passing through said specimen treatment section is directed into said PCR reaction chamber section.

14. The instrument of Claim 1, wherein said cutter section, said specimen chamber, and said specimen treatment section are located on one substrate, and wherein said PCR reaction chamber section is located on another substrate, constructed to abut with and align with said specimen treatment section to receive fluid/sample from said specimen treatment section.

15. The instrument of Claim 14, wherein said cutter section is located in a member bonded to said one substrate and said specimen treating section is formed in said one substrate.

16. In a biopsy/analysis instrument having a cutter section and a specimen treatment section, the improvement comprising:

a PCR reaction chamber section constructed to receive fluid/sample from said specimen treatment section.

17. The improvement of Claim 16, wherein said PCR reaction chamber section, said specimen treatment section, and said cutter section are located on a single substrate.

18. The improvement of Claim 16, wherein said cutter section and said specimen treatment section have a width less than a width of said PCR reaction chamber section.

19. The improvement of Claim 16, additionally including an optical detection system located adjacent said specimen treatment section.